

## Title (en)

LOW COST DUAL CONSOLE TRAINING SYSTEM FOR ROBOTIC SURGICAL SYSTEM OR ROBOTIC SURGICAL SIMULATOR

## Title (de)

KOSTENGÜNSTIGES DOPPELKONSOLENTRAININGSSYSTEM FÜR CHIRURGISCHE ROBOTERSYSTEME ODER CHIRURGISCHE ROBOTERSIMULATOREN

## Title (fr)

SYSTÈME D'ENTRAÎNEMENT À DOUBLE CONSOLE À FAIBLE COÛT POUR SYSTÈME CHIRURGICAL ROBOTIQUE OU SIMULATEUR CHIRURGICAL ROBOTIQUE

## Publication

**EP 3706101 A1 20200909 (EN)**

## Application

**EP 20160768 A 20200303**

## Priority

- US 201962813413 P 20190304
- US 202016797004 A 20200221

## Abstract (en)

A dual user console for a robotic surgical system includes first and second user consoles. The first and user consoles each include an arm, an actuator, and a manifold. Each arm has a joint and the actuator is disposed at the joint. The actuator includes pneumatic and hydraulic cylinders that are each configured to actuate the arm about the joint and to be back driven by movement of the arm about the joint. The manifold is coupled to the pneumatic and hydraulic cylinders. The manifolds are in communication with one another such that movements of the arm of the first console about its joint are mirrored to movements of the arm of the second user console about its joint and movements of the arm of the second user console about its joint are mirrored to movements of the arm of the first user console about its joint.

## IPC 8 full level

**G09B 23/28** (2006.01)

## CPC (source: EP US)

**A61B 34/37** (2016.02 - US); **G09B 19/00** (2013.01 - US); **G09B 23/28** (2013.01 - EP US); **G09B 23/285** (2013.01 - EP); **G16H 80/00** (2017.12 - US); **A61B 34/76** (2016.02 - US); **A61B 2017/00199** (2013.01 - US); **A61B 2017/00973** (2013.01 - US); **A61B 2090/376** (2016.02 - US); **A61B 2090/378** (2016.02 - US)

## Citation (applicant)

- US 8828023 B2 20140909 - NEFF THOMAS [DE], et al
- US 201762510502 P 20170524
- US 201762566100 P 20170929

## Citation (search report)

- [Y] WO 2017210098 A1 20171207 - COVIDIEN LP [US]
- [Y] WO 2018144654 A1 20180809 - TRANSENTERIX SURGICAL INC [US]
- [A] US 2008221590 A1 20080911 - IKEDA MICHAEL [US], et al
- [A] US 2014276944 A1 20140918 - FARRITOR SHANE [US], et al

## Cited by

CN115337171A

## Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

## Designated extension state (EPC)

BA ME

## DOCDB simple family (publication)

**EP 3706101 A1 20200909**; **EP 3706101 B1 20221005**; JP 2020142075 A 20200910; US 2020281675 A1 20200910

## DOCDB simple family (application)

**EP 20160768 A 20200303**; JP 2020035921 A 20200303; US 202016797004 A 20200221